

REMARKS

Claims 1, 2, 5-11, 13-25, 29 and 30 are now pending in the application. Claims 3-4, 12, 24-28 and 31-33 were previously cancelled. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 2, 5-9, 11- 13-15, 17-23, 29 and 30 stand finally rejected under 35 U.S.C. § 103(a) for allegedly being rendered obvious over Kobayashi et al. (U.S. Pat. Pub. No. 2002/0098396) (hereinafter "*Kobayashi*") in view of Heung (U.S. Pat. No. 6,015,041) (hereinafter "*Heung*"), Ovshinsky et al. (U.S. Pat. Pub. No. 2001/0033959) (hereinafter "'959 publication"), and Bruck et al. (U.S. Pat. Pub. No. 2003/0129461) (hereinafter "*Bruck*"). Claim 10 stands finally rejected under 35 U.S.C. § 103(a) as allegedly being obvious over *Kobayashi* in view of *Heung*, the *Ovshinsky '959* publication, *Bruck*, and Ovshinsky et al. (U.S. Pat. Pub. No. 2004/0161652) (hereinafter "'652 publication"). Claim 16 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kobayashi* in view of *Heung*, the *Ovshinsky '959* publication, *Bruck* as applied to Claim 15, and in further view of Shreir et al. (Corrosion (3rd Edition)) (hereinafter "*Shreir*"). Each of these rejections is respectfully traversed.

The cited prior art fails to describe or suggest at least one component of a fuel cell stack both in contact with and heat transfer relationship with the body of a heating element, as commonly recited in independent Claims 1 and 29. In this regard, Applicants respectfully request the Examiner's reconsideration regarding the scope of

the claimed invention, as the Examiner misstates that “the system as claimed only requires the heat transfer relationship.” Final Office-Action dated June 23, 2008 at p. 9, paragraph 3. In reciting both contact established with at least one component of the fuel cell stack, as well as the heat transfer relationship, the claims inherently provide the properties of a self-regulated and integrated heating device that is neither taught nor suggested by the scope and content of the prior art.

Applicants maintain that the original discussion of the scope and content of the prior art remains apposite, including the teaching away of *Kobayashi* and *Heung* from the claimed invention. It is improper for an obviousness rejection to be based upon selective teachings in the art, while ignoring other relevant teachings of the art. *Akzo N.V. v. ITC*, 808 F.2d 1470, 1 USPQ.2d 1241, 1246 (Fed. Cir. 1986) (“Prior art references before the tribunal must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention.”) To this end, *Kobayashi* requires a cooling water jacket surrounding the heater for its operation to indirectly transfer heat via the cooling system C1. The hydrogen storage device in *Kobayashi* must be housed in a heat transfer jacket, to heat water circulating through the jacket, to provide subsequent indirect heat transfer to a fuel cell stack. Thus, in accordance with its operational principle, the heating device of *Kobayashi* is surrounded by the water jacket and would be incapable of establishing contact with at least one component of a fuel cell stack to be in and heat transfer relationship therewith, when contained within the heat transfer jacket. If the jacket of *Kobayashi* were removed, then *Kobayashi* would be inoperable for its intended purpose as it could no longer indirectly transfer heat via a water/coolant loop C1 to the fuel cell. As such, *Kobayashi* teaches

away from the Examiner's proposed modification for combination with either the *Heung* reference, the '959 publication; the *Bruck* reference; and/or the '652 publication.

As discussed previously, *Heung* similarly teaches away from the claimed invention by also requiring insulation surrounding the heater body, like the water jacket of *Kobayashi*. Neither the *Kobayashi* nor *Heung* references describes or provides an apparent reason to incorporate a heating element in contact with and heat transfer relationship with at least one component of a fuel cell stack, as claimed.

Importantly, nothing in the prior art contradicts the teaching away found in the *Kobayashi* and *Heung* references, as reflected in the cited '652 publication, the *Bruck* reference, the '959 publication, or the *Shreir* reference. *Bruck* merely reiterates the prior art methods of heating fuel cells by electrical heaters. Nothing in the '652 publication describes a heating element for a fuel cell at all. Further, the '652 publication teaches away from the claimed invention, by warning that using hydrogen storage materials as a heater, particularly during start-up, causes problems when it describes issues with desorption of hydrogen from metal hydrides due to unfavorable kinetics at cold temperatures. This is highly pertinent to the Examiner's proposed modification to the prior art to arrive at the claimed invention. The '959 publication describes anode electrode materials and again provides nothing further to the scope and content of the prior art. The *Shreir* reference merely describes corrosion resistance properties of aluminum based alloys, but fails to provide any apparent reason to provide a heating element in a fuel cell stack as claimed. The scope and content of the prior art teaches away from the claimed invention, particularly where one of skill in the art would have no reasonable expectation of success in carrying out the extensive modifications

necessary to arrive at the presently claimed invention. As such, the combined teachings of the *Kobayashi*, *Heung*, the '959 publication, *Bruck*, the '652 publication, and/or the *Shreir* references would result in an inoperable device if combined in the suggested manner and hence cannot support a *prima facie* case of obviousness. Accordingly, Applicants respectfully request reconsideration of the rejections and allowance of independent Claims 1 and 29 and their respective dependent Claims 2, 5-11, 13-23 and 30.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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